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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/127,341	07/31/1998	MICHAEL DEADDIO	11021.0001	9998

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EXAMINER

FELTEN, DANIEL S

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 07/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/127,341

Applicant(s)  
DeAddio et al

Examiner  
Daniel Felten

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3624



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Nov 7, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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## DETAILED ACTION

1  
2 1. Receipt of the amendment filed November 7, 2001 canceling claims 1-10 is  
3 acknowledged. No amendment has been made to claims 11-19. Claims 11-19 remain pending in  
4 the application and are presented to be examined upon their merits.  
5  
6

### *Information Disclosure Statement*

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9 2. The examiner has considered the missing cited references in the Information Disclosure  
10 Statement (IDS) submitted April 1, 1999 that were not made of record in the previous office  
11 action mailed May 7, 2001. A copy of the IDS has been made available with this office action  
12 reflecting the aforementioned corrections.  
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*Response to Arguments*

3. Applicant's arguments filed November 7, 2001 have been fully considered but they are not persuasive. The 102(b) rejection of claims 11-15 is maintained. Although the Kapital system tends to focus on the versatility of construction of what the author calls, "exotic tradable instruments", The examiner respectfully requests that the applicant read the Pawson article again, where it says the following:

*"...Using Kapital, traders can choose the user interface that suits them from simple business forms to graphical representations. They can perform powerful financial analytics using complex mathematical models. Kapital accommodates real-time data feeds giving current market information and performs sophisticated **portfolio analysis** (suggesting processing of more than one financial instrument) against a variety of market assumptions." (see Pawson, col. 1, page 41)*

The Pawson article disclosure is not limited to single financial instruments, but suggests performance of analysis on a portfolio of financial instruments within the portfolio. Thus the Kapital system is not limited to individual financial instruments as is suggested by the applicant.

**Regarding 103(a) Rejections:**

References, in determining obviousness are not read in isolation but for what they fairly teach in combination with prior art as a whole, and thus patent assignee's reference-by-reference attack on prior art to demonstrate non-obviousness is not persuasive (Photoelectric sensing system) *Banner Engineering v. Tri-Tronics Co. Inc.*, 29 USPQ 1392 1389 (CAFC 1993unpub) citing in re *Merck*, 231 USPQ 375 (CAFC 1986).

In response to applicant piecemeal analysis of the references, the examiner respectfully submits that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combination of references. Specifically, the applicant discusses that the Klecker references teaches away from the claimed invention. These deficiencies of the reference, Kleckner, were addressed in the first Office Action dated May 7, 2001 and are addressed identically in this action. Both actions discuss the Klenckner reference failing to teach the claimed generic traversal process and how it would be modified by the secondary reference.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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1 5. Claims 11 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleckner  
2 et al (WO 94120912), published on September 15, 1994, and further in view of  
3 Rasala.

4 Kleckner discloses an object oriented system for manipulating a financial instrument.  
5 Rasala discloses iterator and the traversal process as applied to the C++ programming in "A  
6 Model C++ Tree Iterator Class for Binary Search Trees" in the Proceedings of the 28th SIGCSE  
7 technical symposium on Computer Science Education in March 1997.

8  
9 **Claim 11.**

10 A system comprising data processing means wherein a generic traversal process is employed that  
11 can be applied to the macro structure of a financial instrument to implement one or more  
12 functions that produce results based on this information.

13 Kleckner discloses a system for creating, structuring, manipulating and evaluating a  
14 financial instrument using C++ on the top of page 10. Kleckner does not specifically disclose a  
15 traversal process. Rasala discloses this traversal process as part of a tutorial for college computer  
16 science students as shown on page 72 and 76. Since Kleckner uses C++ to implement the system  
17 and the traversal process is inherent in the functionality of C++, it would have been obvious to 5.  
18 add this to Kleckner's invention.

19

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**Claim 12.**

The system of claim 11, wherein each said function is implemented as a specific extension of said generic traversal process to generate a specified type of result.

Kleckner discloses a system to generate a specific type of result in Fig. 8 and starting on page 18, lie 22. Kleckner does not specifically disclose a traversal process. Rasala discloses this traversal process as part of a tutorial for college computer science students as shown on page 72 and 76. Since Kleckner uses C++ to implement the system and the traversal process is inherent in the functionality of C++, it would have been obvious to add this to Kleckner's invention.

**Claim 13.**

The system of claim 12, wherein each traversal process is based on a well defined interface between the financial events contained in the financial event structure of a financial instrument and said traversal process.

Kleckner discloses a system to generate a specific type of result in Fig. 8 and starting on page 98, lie 22. Kleckner does not specifically disclose a traversal process. Rasala discloses this traversal process as part of a tutorial for college computer science students as shown on page 72 and 76. Since Kleckner uses C++ to implement the system and the traversal process is inherent in the functionality of C++, it would have been obvious to add this to Kleckner's invention.

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**Claim 14.**

The system of claim 13, wherein the action to be performed for each type of financial event is defined, in said specific traversal process, independently from the action for any other type of financial event.

Kleckner discloses a system to generate a specific type of result in Fig. 8 and starting on page 98, line 22. Independence is shown on page 4, line 39. Kleckner does not specifically disclose a traversal process. Rasala discloses this traversal process as part of a tutorial for college computer science students as shown on page 72 and 76. Since Kleckner uses C++ to implement the system and the traversal process is inherent in the functionality of C++, it would have been obvious to add this to Kleckner's invention.

**Claim 15.**

The system of claim 13, wherein the overall result of applying a function specific traversal process to the financial event structure of a financial instrument is a combination of applying all individual financial actions to the respective financial events in a prescribed way.

Kleckner discloses a system to generate a specific type of result in Fig. 8 and starting on page 98, line 22. Figure 6 shows the combination of applying all individual financial action in a prescribed way. Kleckner does not specifically disclose a traversal process. Rasala discloses this traversal process as part of a tutorial for college computer science students as shown on page 72 and 76. Since Kleckner uses C++ to implement the system and the traversal process is inherent in



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1 the functionality of C++, it would have been obvious to add this to Kleckner's invention. 10.

2 Claims 16 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klechner and

3 Rasala as applied to claim 11 above, and further in view of Gould. Gould discloses double

4 dispatch for use in C++ programming in "Double Dispatch with an Inverted Visitor Pattern" in

5 the May 1998 edition of C++ Users Journal.

6  
7 **Claim 16.**

8 The system of claim 11, wherein said traversal process is implemented via a double dispatch

9 mechanism. Klechner and Rasala disclose a financial instrument system with a traversal process,

10 but does not disclose double dispatch. Gould discloses double dispatch using C++ and gives code

11 to add this to a C++ program. This addition is an extension of the single dispatch functionality

12 inherent in the C++ language as shown in the first paragraph of page 67. The addition of this

13 functionality would be obvious to allow for more elegant and thus less costly programming.

14  
15 **Claim 17.**

16 The system of claim 16, wherein said double dispatch mechanism selects the appropriate action

17 for each financial event without predetermined knowledge of the over all referential structure of

18 the financial event structure.

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**Claim 18.**

The system of claim 16, wherein a nested double dispatch mechanism initiated inside the action for a given financial event can select the appropriate action for any financial event referred to locally within the financial event.

**Claim 19.**

The system of claim 18 wherein said nested double dispatch mechanism can be applied recursively to any level.

For Claims 17 to 19, Klechner and Rasala disclose a financial instrument system with a traversal process, but does not disclose double dispatch. Gould discloses double dispatch using C++ and gives code to add this to a C++ program. The functionality given in the above claims are inherent to the double dispatch operation or are inherent to an object-based financial instrument system. For example, the functionality of object oriented programming assumes no predetermined knowledge of the actions as disclosed in Claim 97. Nested functions and recursive functions are common in iterative programming as disclosed in Claims 18 and 99.

This addition is an extension of the single dispatch functionality inherent in the C++ language as shown in the first paragraph of page 67. The addition of this functionality would be obvious to allow for more elegant and thus less costly programming.

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*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ***Daniel S. Felten*** whose telephone number is (703) 305-0724. The examiner can normally be reached between the hours of 7:00AM to 5:30PM Monday-Thursday. Any inquiry of a general nature relating to the status of this application or its proceedings should be directed to the Customer Service Office (703) 306-5631, or the examiner's supervisor ***Vincent Millin*** whose telephone number is (703) 308-1065.

7. Response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

for formal communications intended for entry, or (703) 305-0040, for informal or draft communications, please label "Proposed" or "Draft".

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to *[daniel.felten@uspto.gov]*.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly

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1 set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and  
2 Trademark on February 25, 1997 at 1 195 OG 89.

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4  
5  
6 **DSF**  
7 **July 15, 2002**

VINCENT MILLIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600